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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,104

06/08/2005

Jens Pollmann-Retsch

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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EXAMINER

ALEMU, EPHREM

ART UNIT

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2821

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/538,104	Applicant(s) POLLMANN-RETSCH ET AL.	
	Examiner Ephrem Alemu	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4,6-8 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4,6-8 and 12-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

(i) A specific reference to the prior national stage of the international application and the claimed foreign priority is not included in the first sentences of the specification of this application. The first sentence of the specification should be amended to include the specific reference in compliance with 37 CFR 1.78(a). Appropriate correction is required.

(ii) The specification recites, "as recited in claim X" where X refers to claims 1, 9, 10 and 11 in page 3, lines 1, 19 and 20; and "claims Y" where Y refers to claims 2, 3, 4, 6, 7, 8 and 10, is not a proper description of the claimed invention. Applicant is advised to make correction so that one of ordinary skill in the art could understand the claimed invention by the teaching of the specification because the form of the claims changes or modified throughout the prosecution of the case. In other word the specification should teach the claimed invention rather than vise versa. No new matter should be added. Appropriate correction is required.

Claim Objections

2. Claims 12, 14, 23 and 25 are objected to because of the following informalities:

Re claims 12, 23 and 25, delete the "bullet heads" in front of all the claimed limitations. Is the claimed limitations following the "bullet head" have different in meaning with the claimed limitations having no "bullet head"? Appropriate correction is required.

Re claim 14, lines 2-3, "operates responsive to the at least one operating condition of the cooling device" should be deleted and/or correct it appropriately. Appropriate correction is required.

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In claim 23, line 2, change "a the lamp" with --a lamp-- to correct minor typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2, 3, 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Gear (4,672,271) previously submitted by applicant.

Re claim 2, Gear discloses a lighting unit having a discharge lamp (10), a lamp driver (i.e., power supply 13), a cooling device (i.e., fan and motor 12), at least one device (i.e., temperature monitoring equipment 19) for detecting at least one predetermined operating parameter of the discharge lamp (10), together with a control unit (16) for controlling the lamp driver (i.e., power supply 13) and/or the cooling device (i.e., fan and motor 12) at least during switching on and/or off of the lighting unit in such a way that there is no excursion from a predetermined range of the at least one operating parameter, wherein the detecting device (i.e., temperature monitoring equipment 19) comprises a sensor (i.e., thermistor units 22 in contact with the discharge lamp) for detecting the operating parameter in the form of the temperature of a wall of the discharge vessel of the discharge lamp (10) (Figs. 1-3; Col. 2, lines 35-50; Col. 3, line 25- Col. 4, line 40).

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Re claim 3, Gear discloses a lighting unit having a discharge lamp (10), a lamp driver (i.e., power supply 13), a cooling device (i.e., fan and motor 12), at least one device (i.e., apparatus for monitoring voltage and current) for detecting at least one predetermined operating parameter of the discharge lamp (10), together with a control unit (16) for controlling the lamp driver (i.e., power supply 13) and/or the cooling device (i.e., fan and motor 12) at least during switching on and/or off of the lighting unit in such a way that there is no excursion from a predetermined range of the at least one operating parameter, wherein one of the operating parameters (i.e., apparatus for monitoring voltage and current) of the discharge lamp (10) is the lamp current and/or the lamp power (Figs. 1, 4; Col. 2, lines 53-67; Col. 3, lines 36-45; Col. 4, lines 31-45).

Re claim 4, Gear discloses a lighting unit having a discharge lamp (10), a lamp driver (i.e., power supply 13), a cooling device (i.e., fan and motor 12), at least one device (i.e., temperature monitoring equipment 19) for detecting at least one predetermined operating parameter of the discharge lamp (10), together with a control unit (16) for controlling the lamp driver (i.e., power supply 13) and/or the cooling device (i.e., fan and motor 12) at least during switching on and/or off of the lighting unit in such a way that there is no excursion from a predetermined range of the at least one operating parameter, wherein the range of the at least one operating parameter (i.e., current and voltage or temperature) is so rated that the mechanical stresses in the wall of the discharge vessel of the lamp (10), caused by temperature fluctuations in the discharge lamp (10), are at least substantially reduced (Fig. 1; Col. 3, lines 36-45; Col. 4, lines 31-45).

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Re claim 7, Gear discloses a lighting unit having a discharge lamp (10), a lamp driver (i.e., power supply 13), a cooling device (i.e., fan and motor 12), at least one device (i.e., temperature monitoring equipment 19) for detecting at least one predetermined operating parameter of the discharge lamp (10), together with a control unit (16) for controlling the lamp driver (i.e., power supply 13) and/or the cooling device (i.e., fan and motor 12) at least during switching on and/or off of the lighting unit in such a way that there is no excursion from a predetermined range of the at least one operating parameter, wherein the control unit (23) comprises a microprocessor unit (i.e., processing unit 32) and a memory (33) for storing at least one switching schedule according to which the lamp driver (i.e., power supply 13) and/or the cooling device (i.e., fan and motor 12) can be controlled (Fig. 3; Col. 3, line 64- Col. 4, line 20).

5. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Belliveau (6,621,239).

Re claim 12, Belliveau discloses a lamp unit (Fig. 5) comprising:

- at least one lamp driver (i.e., power supply 120) (Fig. 5; Col. 8, lines 31-32);
- at least one cooling device (i.e., fan or motor (not shown)) (Fig. 5; Col. 8, lines 12-27);
- a sensor (i.e., thermal sensor 116) for detecting at least one parameter of a lamp (124) associated with the unit (Fig. 5; Col. 8, lines 33-65); and
- at least one controller (i.e., microprocessor 102) for controlling and coordinating both the lamp driver and the cooling device together to cause the parameter to stay within a predetermined range (Figs. 5, 9, 11; Col. 9, line 35- Col. 10, line 9; Col. 12, lines 12-17).

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Re claim 13, Belliveau further discloses the controller includes means (i.e., thermal sensor 504) for controlling the cooling device to achieve at least four distinct operating states (i.e., on, off, normal or variable speed) (Fig. 12; Col. 13, lines 8-21).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gear (4,672,271), previously submitted by applicant, in view of Parker (US 4,283,658) previously cited by examiner.

Re claim 8, Gerber does not teach of activating a switching schedule by actuation of an off switch of the lighting unit, according to which schedule the lamp driver and the cooling device are adjusted down alternately and/or stepwise.

Parker discloses known patents for activating a switching schedule by actuation of an off switch of the lighting unit for the purpose of cooling the discharge lamp to promote subsequent ignition (Col. 1, lines 50-66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gerber's lamp by activating a switching schedule by actuation of an off switch of the lighting unit as taught by Parker for the purpose of cooling the discharge lamp to promote subsequent ignition.

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8. Claims 6, 14-19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belliveau (6,621,239).

Re claim 6, Belliveau discloses a lighting unit having a discharge lamp (124), a lamp driver (i.e., power supply 120), a cooling device (i.e., fan or motor (not shown)), at least one device (i.e., thermal sensor 116) for detecting at least one predetermined operating parameter of the discharge lamp (i.e., metal halide lamp 124), together with a control unit (i.e., microprocessor 102) for controlling the lamp driver (i.e., power supply 120) and/or the cooling device (i.e., fan or motor (not shown)) at least during switching on and/or off of the lighting unit in such a way that there is no excursion from a predetermined range of the at least one operating parameter; wherein the lamp driver (i.e., power supply 120) and/or the cooling device (i.e., fan or motor (not shown)) being controllable by the control unit (i.e., microprocessor 102) as a function of the output signal of the at least one detected predetermined operating parameter of the discharge lamp (Figs. 5, 9, 11; Col. 8, lines 12-65; Col. 9, line 35- Col. 10, line 9; Col. 12, lines 12-17).

Although, Belliveau further teaches a thermal sensor being located near the fan and exhaust vent (Col. 8, lines 27-32) and providing multiple sensors for the purpose of separately monitoring each signal and making thermal decision in the controller (i.e., microprocessor 102) based on the individual values (Col. 8, lines 52-65), Belliveau does not show a sensor for detecting the power of the cooling device (i.e., fan or motor (not shown)) in the form of the velocity or the pressure or the volume of a gas stream directed onto the discharge lamp (124).

However, providing a sensor for detecting the power of the cooling device (i.e., fan or motor (not shown)) in the form of the velocity or the pressure or the volume of a gas stream directed onto the discharge lamp (124) of Belliveau is within a routine skill of an artisan to

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thereby control the lamp driver (i.e., power supply 120) and/or the cooling device (i.e., fan or motor (not shown)) for the purpose of controlling the temperature of the lamp based on the detected power of the cooling device (i.e., fan or motor (not shown)).

Re claims 14 and 15, although, Belliveau does not mention about having a sensor for detecting at least one operating condition of the cooling device (i.e., fan) in addition to the at least one parameter of the lamp, Belliveau teaches of providing multiple sensors for the purpose of separately monitoring each signal and making thermal decision in the controller (i.e., microprocessor 102) based on the individual values (Col. 8, lines 33-65).

Therefore, providing a sensor for detecting at least one operating condition of the cooling device in addition to the at least one parameter of the lamp for Belliveau's lighting unit would have been obvious for a skilled artisan for no other reason than controlling the temperature condition within the lamp unit based on the at least one operating condition of the cooling device (i.e., fan) and the at least one parameter of the lamp. Further, the operating parameter of the cooling device being velocity, pressure and/or volume of a gas stream directed onto the lamp would have been obvious for no other reason than providing forced air to the lamp at a variable rate .

Re claim 16, Belliveau further discloses the lamp being a discharge lamp (i.e., metal halide lamp 124) and the sensor being near a particular component such as the lamp (Col. 8, lines 45-50). Therefore, the parameter comprising a temperature of a wall of a discharge vessel of the discharge lamp would have been obvious by providing the sensor near the lamp (i.e., metal halide lamp 124) as taught by Belliveau.

Re claims 17-19, given Belliveau's controller (i.e., microcontroller 102) for controlling both the lamp driver and the cooling device for maintaining a desired temperature, providing a switching schedule comprising predetermined stepwise adjustments to control parameters of both (alternately adjusting) the lamp driver and the cooling device and/or to minimize mechanical stress of a wall of the discharge vessel would have been obvious since Belliveau teaches by varying the lamp driver (i.e., lamp power) and the cooling device (i.e., fan speed) for maintaining the sensed temperature at the desired value and maintaining the light output of the lamp at a relatively constant value (Figs. 9, 11; Col. 7, lines 45-61; Col. 12, lines 12-61).

Re claim 25, Belliveau discloses a control unit (i.e., microprocessor 102) for protecting a discharge lamp (i.e., metal halide lamp 124) from mechanical stress, the control unit comprising:

means for communicating (i.e., supply interface 112) with a lamp driver (i.e., lamp power supply 120) (i.e., via supply interface 112) (Fig. 5; Col. 8, lines 5-32);

means for communicating (fan or motor interface 106, 108) with a cooling device (i.e., fan or motor (not shown) (fan or motor interface 106, 108) (Fig. 5; Col. 8, lines 5-32);

means for sensing (i.e., thermal sensor 106) a temperature of component of the discharge lamp (Fig. 5, Col. 8, lines 33-52); and

means (i.e., microprocessor 102) for coordinating the lamp driver and cooling device together to achieve a desired range for the temperature (Fig. 5; Col. 8, lines 31-32; Col. 12, lines 12-61).

Although, Belliveau does not specifically mention the means for sensing is for sensing the temperature at the wall of a discharge vessel of the discharge lamp. Belliveau clearly states

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the sensor position may be chosen near a particular component such as a lamp 124 for precise control of the temperature thereof (Fig. 5, Col. 8, lines 47-52).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the means for sensing (i.e., thermal sensor 106) for sensing the temperature at the wall of a discharge vessel of the discharge lamp for the purpose of precise control of the temperature thereof as taught by Belliveau.

9. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belliveau (6,621,239) in view of Parker (US 4,283,658).

Re claim 20, Belliveau does not mention about the controller implementing the schedule responsive to the switching-off the lamp to avoid mechanical stress to the lamp.

Parker discloses known patents for activating a switching schedule by actuation of an off switch of the lighting unit for the purpose of cooling the discharge lamp to promote subsequent ignition (Col. 1, lines 50-66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Belliveau's lamp by activating a switching schedule responsive to switching-off of the lighting unit as taught by Parker for the purpose of cooling the discharge lamp to promote subsequent ignition, thus avoid mechanical stress to the lamp.

10. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belliveau (6,621,239) in view of in view of Parker (US 4,283,658).

Re claims 21-22, Belliveau does not discloses the at least one operating parameter comprises at least one electrical parameter of the lamp.

In the same field of endeavor, Parker teaches of providing a sensor for sensing at least one electrical parameter (i.e., current, voltage or power) of the lamp for controlling a lamp driver (i.e., power supply 12 and/or a cooling device (i.e., fan 29) for the purpose of maintaining the operating point of a discharge lamp (Fig. 1; abstract; Col. 5, lines 3-27; Col. 6, lines 52-58).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the controller circuit of Belliveau by providing a sensor for sensing at least one electrical parameter (i.e., current, voltage or power) of the lamp for the purpose of controlling the lamp at a desired temperature range.

Re claims 23 and 24, Belliveau further discloses the lamp being a discharge lamp (i.e., metal halide lamp 124) and Belliveau further teaches the sensor being near a particular component such as the lamp (Col. 8, lines 45-50). Belliveau further teaches of providing multiple sensors for the purpose of separately monitoring each signal and making thermal decision in the controller (i.e., microprocessor 102) based on the individual values (Col. 8, lines 52-65).

Therefore, given Belliveau modified by Parker's lamp unit, the controller (i.e., microcontroller 102) coordinating the lamp driver and the cooling device responsive to the electrical parameter of the lamp, the operating parameter of the cooling device and the temperature of the lamp would have been obvious because Belliveau teaches of processing signals from multiple sensors in different ways and making thermal decision management decision in the controller (i.e., microprocessor 102) (Col. 8, lines 52-65).

Response to Arguments

11. Applicant's arguments with respect to claims 2-4, 6-8 and 12-25 have been considered but are moot in view of the new grounds of rejection.

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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA
6-11-07

Douglas W. Owens 6/15/07

DOUGLAS W. OWENS
SUPERVISORY PATENT EXAMINER